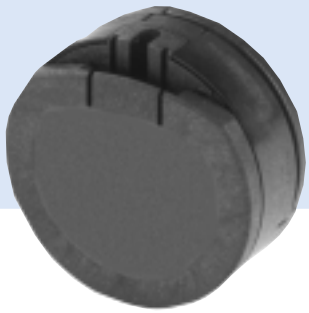
Series M14 Miniature Encoder

- ***Ideal economical feedback device for servo and stepper motors***
- ***Short axial length and compact 1.5 inch diameter***
- ***Easy "snap-on" installation***
- ***High resolution to 1024 lines/rev and 200 kHz bandwidth***
- ***Drop-in replacement for HP 5540***
- ***CE Qualified***



APPLICATION/INDUSTRY

The M14 series of incremental optical encoders provides high performance feedback for precision motion control in a small, low cost package. Its high performance, advanced features, and competitive pricing make it the encoder of choice for a broad range of applications.

DESCRIPTION

The M14 optical encoder utilizes a patent-pending ASIC that integrates all encoder electronics, including the optoelectronic sensors, which enhances reliability and accuracy.

Quadrature A and B channels with up to 1024 lines per revolution and reference pulse are output as single-ended TTL/CMOS compatible signals.

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical
Resolution: Incremental pulses per revolution; 200 to 1024
Phasing: 90° ±18° electrical
Symmetry: 180° ±18° electrical
Index Pulse Width: 90° ±36° electrical

ELECTRICAL

Supply Voltage: 5 VDC ±10%
Supply Current: 10 mA, typ.
Output Signals: 2.5 V min. high (V_{OH}); 0.5 V max. low (V_{OL}). 6 mA sink/source (25°C), 4 mA (100°C)
Frequency Response: 200 kHz
Termination: 5 pin connector (accessory connector w/12" wires, part no. CA0060012)
Recommended Mating Connector: Amp Part Number 103969-4

MECHANICAL

Weight: 0.22 oz (6.2 g)
Moment of Inertia: 0.16 x 10^{-5} oz-in-sec^2 (0.13 gm-cm^2)
Hub Bore: 3.0, to 8.0 mm; 0.125, to 0.375 inch
Hub Dia. Tolerance: +0.0004"/-0.0000" (+0.010 mm/-0.000 mm)
Mating Shaft Length: 0.525" (13.3 mm) max.; 0.436" (11.07 mm) min.
Mating Shaft Runout: 0.001 TIR
Mating Shaft Endplay: >512 ppr: ±0.003" (±0.076mm); 500, 512 ppr: +0.005/-0.003" (+0.127/-0.076mm); <500 ppr: +0.007/-0.003" (+0.178/-0.076mm)

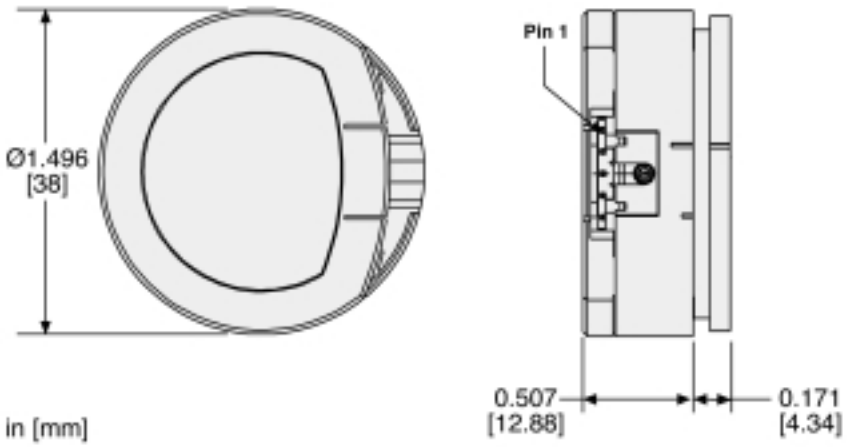
ENVIRONMENTAL

Operating Temperature: -40° to 100°C
Storage Temperature: -50° to 125°C
Relative Humidity: 90% non-condensing

This product is obsolete. Please contact Dynapar for a replacment. www.dynapar.com

Series M14 Miniature Encoder

Dimensions/Installation



Output Waveforms & Connections (Direction CCW viewing encoder cover)

PIN	FUNCTION		CABLE WIRE
5	GND		BLACK
4	CH Z		BLUE
3	CH A		WHITE
2	Vcc		RED
1	CH B		BROWN

Ordering Information

To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: PPR	Code 3: Mounting Description	Code 4: Hub Bore Description
M14	**□□□□/0**	**□**	**□□□**

Ordering Information

M14	1.5" Diameter Incremental Modular Encoder	**0200/0** **0400/0** **0500/0** **0512/0** **1000/0** **1024/0**	**0**	No mounting base	**3.0** 3.0 mm **4.0** 4.0 mm **5.0** 5.0 mm **6.0** 6.0 mm **8.0** 8.0 mm **125** 0.1248 in **187** 0.1873 in **249** 0.2498 in **250** 0.2501 in **312** 0.3123 in **374** 0.3748 in **375** 0.3750 in
			A	2x #2-56 on1.28" BC	
			B	3x #0-80 on 0.823" BC	
			C	2x #2-56 on 0.75" BC	

IMPORTANT: To properly install Series M14, a specialized mounting kit must be purchased. Only one kit is required to install any number of encoders with the same hub bore size.

Kit Part Number: MK M14 □ □ □ — *Code 4 (from Models Table, above) designating Hub Bore requirement.*

Example: Kit for installing encoders with 0.1248" hub Bore= ***MK M14 125***